# SCIENCE & GOVERNMENT REPORT

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*After a Bumpy Start*

## Science and Reagan: A Comfortable Relationship

The New Year opens with the scientific community in a comfortable relationship with an Administration it had originally feared.

The cause of the turnaround is simple to see: An unexpected surge of government money for the major fields of research over the past two years, with more likely in the budget that Mr. Reagan will soon send to Congress; very few lunkheads appointed to major research posts—another defiance of expectations; and, finally, the Administration's Jekyll-Hyde oscillations in areas where only the worst was predicted, namely, arms control and openness of scientific communication.

However, the harmony between science and the Reagan Administration ought not to be mistaken for ideological togetherness.

The mandarins of science are mainly university-based, eastern, liberal, and innately panicky about the durability of their profession's lifelines to the US Treasury. They do not accept Mr. Reagan's "evil empire" view of the Soviet Union, though the persecution of Sakharov and other dissidents has split them on the issue of professional links to the USSR. They thankfully count their budgetary blessings, but note uneasily that science is a rare exception in the Administration's dedication to frugality. And they don't feel comfortable with an Administration that reveres science as an adjunct of military and industrial technology and not for itself.

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But when measured against the public shouts of alarm and private expressions of rancor that the Administration evoked in science-policy circles in its first few months in office, the present-day mood reflects a harmonious relationship.

Several of the established leaders have come right out in the open and, reversing early expressions of dismay about Mr. Reagan's science policies, have warmly praised him and his Science Adviser, George A. Keyworth II, for delivering the goods. Prominent among them is Frank Press, President of the National Academy of Sciences, who, in 1981, fresh from service as President Carter's Science Adviser, organized a politically embarrassing public review of Mr. Reagan's hurried efforts to include science in a trimming of budgets inherited from the previous Administration (SGR Vol. XI, No. 18). Less than a year later, Press came close to canonizing Keyworth as a savior of science, noting that Keyworth had urged calm, and that "In many areas of basic research, he did achieve real growth, and I know he had to fight for it" (Vol. XII, No. 12).

The relationship between science and Washington is marred a bit by Administration insensitivities that the leaders of science—including Mr. Reagan's own appointees—consider insulting to science, such as the White House's inexplicable, year-plus delay in filling five senior posts at the National Science Foundation (still held on an acting basis at this writing).

But the indignity of that neglect is more than compensated for by the plump budgets that the Administration

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## In Brief

**A booming 1984 in industrial research is predicted by NSF, which says company-financed activities will rise by 11 percent to a record $48 billion. Based on survey returns from 76 companies that account for 53 percent of the nation's industrially supported R&D, NSF says last year's total was up by 9 percent and that, contrary to expectations, the recession did not bring a slowdown in industrial R&D spending.**

*The widely held impression that health-minded America is obliterating tobacco usage finds little support in the latest figures from the federal Office on Smoking and Health. Per capita cigarette consumption last year fell to a 30-year low of 3512, compared to 4345 in 1963, the year before the Surgeon General's report on Smoking and Health. But 38 percent of men and 30 percent of women still smoke. And, ominously, the percentage of heavy smokers—25 or more per day—has risen for both sexes since 1965, from 25 to 34 percent among men and 14 to 23 percent among women.*

**Though defense R&D now receives over two-thirds of the federal R&D budget, Presidential Science Adviser George A. Keyworth says "we really tap an inadequate amount of the nation's brainpower to work on defense." Discussing the President's so-called Star Wars plan in a recent talk, Keyworth expressed hope that "we'll attract creative organizations and bright young people into this initiative, perhaps people who might not even have considered defense work before."**

# ...DoD Returns as a Prop for University R&D

has supported for NSF—an agency symbolically as well as financially dear to the community. With Congress in a cooperative mood because of extravagant claims for the job-generating powers of science, NSF's budget has risen from $992 million in fiscal 1981 to $1.25 billion in the current fiscal year, 1984.

The joy of money can also be seen in the return of the Defense Department as a major supporter of university-based science—with the elders of science uttering no sound but "more, more." The Defense presence in academic research has now risen to the point where in actual outlays, DoD is close to if not ahead of the Science Foundation, an agency that was carefully fashioned after World War II to balance scientific independence and accountability for government money.

Are there concerns about a conflict of military and scientific values on campus? Of course, especially under an Administration marked by infantile obsessions about secrecy and contradictory efforts to stimulate and curtain off leading parts of the national research enterprise. Sensitive to the importance of keeping academe happy and tied into DoD's bankroll, the less-benighted elements in the Pentagon's management of research have responded by establishing a pressure valve—the DoD-University Forum, where, twice each year, university officials can unburden themselves to DoD's managers and cashiers for research.

The system, established on an experimental basis in the second year of the Reagan Administration, produced enough satisfaction from the beginning to be given permanent status. Is the Forum functioning to the benefit of academe? The answer is uncertain at this point, since on the most difficult subject it has yet handled, "export controls"—the euphemism for imposing security controls on unclassified science—the Reagan Administration is confused and divided and the governing rules vary between and within the Departments of State, Defense, and Commerce.

But lacking the sort of statutorily based advisory hold that it has on NSF and its money, academe sees the DoD-University Forum as the best opening available for getting its views across in the wing of the Pentagon that supplies money to universities. What is certain is that the Forum draws off at least some of the political concern generated by DoD's growing role in university science.

A variety of other issues have had the potential for souring the Administration's relations with the scientific community, but by one means or another, the worst has rarely occurred. Where it has, as in savage cuts inflicted on support of the social sciences, the victims accounted for only a tiny slice of federal support for research and, despite expressions of regret from various bastions of the physical and life sciences, these misfortunes were not seen as central to the science-government relationship.

The Administration's relationship with the life sciences initially suffered from its efforts to restrain budget growth at the National Institutes of Health. And the difficulties might have been compounded if, as rumored, the Administration opted for a kook when Donald S. Fredrickson suddenly retired as NIH Director in 1981.

But, at the insistence of Richard S. Schweiker, who was then Secretary of Health and Human Services, the Administration took the high road and appointed an NIH alumnus and traditionalist, James B. Wyngaarden, of Duke University, whose presence quelled all fears of upheavals in Bethesda. Congress then came along with a huge budget increase—some $350 million beyond the Administration's request for this fiscal year. The White House didn't quibble, thus giving credence to the old assumption that presidents aim low in NIH budgeting because they expect Congress to pile it on.

The Administration did ruffle the management of life-science institutions by trying to hold down the mysteriously growing share of NIH money going into indirect costs, but Congress again came to the rescue by barring reductions in those payments. Rather than incur a nasty fight over relatively minor sums, the Administration has now quietly shifted to the position that, despite what it regards as a blatant ripoff of federal research funds, political prudence now calls for restraining the growth of indirect cost payments, rather than trying to roll them back.

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## *Keyworth Hits News Media, "Arms Control Activists," Etc.*

It's none of that traditional science-statesman-above-the-fray stuff for Presidential Science Adviser George A. Keyworth II, as he has recently demonstrated in utterances on the alleged inadequacies of the press, the density of arms-control enthusiasts, and the ingratitude of scientists for the Administration's generosity.

In a talk, "Technology and President Reagan's New Defense Initiative," December 14 to the Wings Club, in New York, Keyworth stated:

"Having spent most of my professional life in the relative isolation of the mountains of New Mexico, I used to take at face value what I read in the papers or saw on television. Well, ignorance is bliss, and I was happy. But then I moved into the world of science and technology policy and science and technology politics. Needless to say my eyes have been opened since 1981. These days I pick up the morning papers and the news magazines, or switch on the TV, as if they were loaded weapons. I never know what kind of interpretation I'll encounter of events and issues I think I'm reasonably well-informed about."

The occasion for that tale of lost innocence was press coverage of the President's so-called Star Wars speech in March. Who went astray on what, Mr. Reagan's wizard did not say.

But he did go on to assail the "vehement reactions from some of the traditional arms-control activists"—which ones, he didn't say. "I watched with some amazement," Keyworth continued, "while a few dozen of them marshalled largely irrelevant technical arguments against the President's proposal for strategic defense....Well," he confessed, "I wasn't surprised by those instant negative reactions from that community."

The Adviser's dour observation on ingratitude was delivered November 2 in an address to the National Academy of Engineering. Noting the protests that arose when the newly inaugurated Reagan Administration reshuffled research priorities, Keyworth said, "But attitudes are different now, and the wisdom of those changes—resulting in today's strong growth for basic research—is even being applauded, quietly, of course."

What must be noted about his allegations, is that, half-baked though they are, the version from the rostrum is identical to the version in private conversation.

## AMITY PREVAILS

*(Continued from page 2)*

Perhaps the greatest area of discontent is in the national labs supported by the Department of Energy, most of which have suffered large budget and staffing cuts as part of the Administration's efforts to reduce spending and redirect federal research money toward university-based science.

But in terms of winning and losing support as a result of this reorientation, the Administration probably comes out ahead. Though of political importance in their regions, the afflicted labs are few in number; furthermore, their budgets have long been coveted by academic research managers, who tend to rank the labs low in terms of what they consider scientific virtue. The layoffs at the national labs have produced a great deal of pain. But it should be noted, too, that the hatcheting has been cheered as long overdue in other arenas of research.

Among the many scientists for whom arms control is an enduring extra-curricular concern, there's great alarm about the Administration's militarization of foreign policy and its unrestrained fascination with new high-tech weapons systems, including the so-called Star Wars defense against missiles.

But it must be noted that the traditional hub of these concerns, the high-energy physics community, finds its great ambitions for costly new machines attentively looked after by the Reagan Administration. With considerable pride, Science Adviser Keyworth has noted in public addresses that the Administration rescued high-energy physics from sparse budgets and year-to-year uncertainty. That good treatment hasn't quelled the arms-control concerns of the particle physicists, but one gets the impression that many of them are very busy with their work and have less time for non-professional activities.

While women, blacks and the poor can legitimately direct a long list of grievances toward the Administration, the same cannot be said of a scientific community which looked fearfully upon Mr. Reagan's arrival in Washington. In the first year of his Administration, he justified many of those fears. But, while a few areas of the science-government relationship are still nettlesome, the Administration has by and large treated science as a privileged enclave.

The measure of success is a rare sound in science-policy circles: Purring.—DSG

## Forum on For-Profit Health Care

A daylong public meeting on the Implications of For-Profit Enterprise in Health Care will be held March 15 at the National Academy of Sciences, in Washington. Sponsorship is by an Institute of Medicine panel chartered to examine that increasingly controversial sector of medicine. For additional information: 202/334-2310.

# NIH Advisers Ponder PhD Role in Med Schools

*The three-times-a-year meetings of the Advisory Committee to the Director of the National Institutes of Health function as a ventilator for the science-policy concerns of a representative 16-member slice of the leadership of the biomedical-research community. And the meetings, joined in by representatives of each of NIH's institute councils, enable the NIH Director to convey his concerns to the agency's clients. Nothing gets settled at these daylong official bull sessions, but a lot of policy information does emerge and candor does reign, as can be seen in the following excerpts from the most recent meeting, December 14, which focused on the NIH role in manpower training, and the National Academy of Sciences latest annual report on* Personnel Needs for Training for Biomedical and Behavioral Research:

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**Evelyn V. Hess,** Director, Division of Immunology, University of Cincinnati College of Medicine:...it's beginning to be quite a jungle in the private world of medicine, so that the incomes will be reduced and so that inversely it may begin over the next few years to turn young people around to looking back into academia. So, isn't it going to be difficult to make [manpower] projections?

**Robert Furman,** Vice President for Corporate Affairs, Eli Lilly, who chaired the Clinical Sciences Panel of the NAS study: Yes...if elbows get too sharp vis-a-vis the practice of medicine as a result of the tremendous increase in the size and number of medical schools, the practice of medicine will become less and less attractive and accordingly, hopefully, a career in academic and investigative medicine more so.

**Harvey Blank,** Chairman, Department of Dermatology, University of Miami School of Medicine: There is another area that I think is going to cause a perturbation of the [manpower] statistics...sexually transmitted diseases, which are increasing enormously.... And yet, with all of this, the latest reports I have indicate that only two out of 116 medical schools in the United States offer significant training in sexually transmitted diseases.

**James B. Wyngaarden,** NIH Director: As of the fall of 1982, NIH was providing the principal means of support for 19 percent of the 35,000-plus fulltime graduate students in biological science departments at doctoral-level institutions. And other federal agencies provided an additional 10 percent....And of the 5300 PhDs awarded in the life sciences in the US in 1982, 1220, or 23 percent, had received some NIH predoctoral support during their training....In 1981, NIH was responsible for 67 percent of approximately 6000 PhD postdoctorals, and other federal agencies accounted for about 12 percent...

As you can see, the balance of our support of manpower development has shifted gradually from aid in stimulating new careers, undergraduates, to enhancement of the skills of selected people at later career stages, both the postdoctorals and then the career-development program.

**Blank,** [to Wyngaarden]: Do you think these various groups of non-professionals who are interested in specific diseases and put the pressure on the Congress are effective in increasing your budget?

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## *"What's the Role of a PhD in a Clinical Department?"*

Are the clinical departments of medical schools taking on too many PhD scientists as faculty members?

Their presence in large numbers was the most discussed topic on a crowded and varied agenda at the most recent meeting of the Advisory Committee to the Director of NIH. But, apart from the generally held belief that they're usually fill-ins for MDs lured away by the financial rewards of medical practice, there was little agreement or firm information about the PhD-clinical phenomenon.

Robert Barker, Vice President for Research and Advanced Studies at Cornell, who chaired the NAS study panel on basic biomedical sciences, reported that, including psychologists, there are 4500 PhDs in clinical departments and 6800 in basic departments.

Robert L. Hill, Chairman of Biochemistry at Duke University Medical Center, who chaired the NAS panel on biomedical and behavioral research personnel, commented that the panel believed "there are far too few clinical research people who do research with human beings and that we don't know exactly why."

Hill added, "What is the role of a PhD in a clinical department? Presuming he'd be doing his research in a clinical department, about the only good he would be in a clinical department is for research since he can't handle patients.

"We've asked about the subject," Hill continued, "and we don't even know the numbers. That is what is so frustrating. We know that there are a lot of PhDs in clinical departments...Obviously, our colleagues around the United States who have clinical training programs are filling them with PhDs to a much greater extent than we anticipated."

# ..."We Really Don't Need Genetic Engineers"

*(Continued from page 4)*

**Wyngaarden**...there is an optimal amount of such activity, and then, if it passes a certain...point, it may become somewhat destructive. I think there is a danger in excessive fractionalism if increasingly minute portions of our total portfolio are specified for support. But, in general, I think that [the lobby groups have] been a major factor in the growth of NIH, and in some areas, these groups that represent epidemic diseases have gotten together and have said, "We can probably do more good if we pool our efforts,"—let's say, for neurosciences, rather than for each syndrome. And I think that carries a message. But there is no question that that kind of intercession at the level of Congress is effective.

**Cornelius W. Pettinga,** Executive Vice President, Eli Lilly, [responding to a question on whether the training of biomedical scientists is responding to manpower needs in industrial biotechnology]: ...we've had some experience with recombinant technology, and the needs right now are not for genetic engineers. The needs are for people who understand Foxboro control systems, and they're coming out of the electrical engineering schools. They are people who have gone on to graduate school after becoming electrical engineers and saying, "I want to learn something about fermentation knowledge." The need is for corrosion-resistant metals so that you can handle some of the reagents safely in a reactor. The need is for industrial hygienists, the kind we used to have in the Atomic Energy Commission, but who are familiar with biological problems....We really don't need genetic engineers today.

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**Wyngaarden,** [in response to discussion of varying stipend levels for research trainees, particularly MDs and PhDs]: ...there is a major problem there if you have different levels for MDs and PhDs who are perhaps working side by side in the same program.

**Ed Rall,** Deputy Director for Science, NIH: ...for harmony and to be economic and prudent financially, it's probably wise not to have MDs and PhDs at the same level of training working side by side....It's a little bloody on that score right now.

**Wyngaarden,**You know, it's been said that MD stands for "moderately done" and PhD for "phenomenally done," and I think what we want is phenomenally done MDs.

**Harry Preuss,** Professor, Department of Medicine and Pathology, Georgetown University Hospital: ...it's very obvious that there is a difference between the MD candidates [for NIH grants] and the PhD candidates. The MDs...are just coming out of their residencies, they are not as good as the PhD, who has...the [laboratory] technique....So, the MDs are considered separately from the PhDs [in evaluating grant applications]. You may do the MDs first, which are about a quarter of the total, and then you do the PhDs....But when you ask the question "Well, should we rate them differently?" it's never answered. I know some of us are doing it, and some are not doing it, and it would be nicer if there were a clearer definition as to what the differences should be.

**William Raub,** Deputy Director, Extramural Research and Training, NIH: ...when I've been asked by study sections to discuss this, I've generally taken the position that it's likely a losing game to attempt to build those distinctions within the first step of the peer-review process, where the judgment is to be one of the technical merit of the proposal and the individual behind it.

**Samuel O. Thier,** Chairman, Department of Internal Medicine, Yale: It hasn't been actually stated that way, but one could interpret the drift of our conversation to say that we were going to make it a little easier for the MDs to get funded through the same mechanism as other people, and I, for one, would be very opposed to that. We're coming out of an era where 15 years ago, the MDs competed very effectively with the PhDs.... The intrinsic competence of the people going into the [medical] field should not have changed significantly, and I think it's reasonable for us to assume that what we've done is that we've messed up their training to some extent if a research career is what we want.

## In Print

*World Military and Social Expenditures,* ninth annual edition of a widely respected, 142-nation tabulation of spending for arms, education, health, etc., produced by Ruth Leger Sivard, former chief of the Economics Division of the US Arms Control and Disarmament Agency, under the sponsorship of The Rockefeller Foundation, the Arms Control Association, and several other organizations.

(42 pages, $4, available from World Policy Institute, 777 United Nations Plaza, New York, NY 10017.)

*China Exchange News,* quarterly magazine of the Committee on Scholarly Communication with the People's Republic of China, a scholarly consortium which administers exchanges between the US and the PRC. The decade-old publication, circulation 3800, contains reports of developments in exchange programs, articles by scholars who have been to China, and bibliographies of China-related publication.

(Currently available without charge—a subscription fee is under discussion—from the Committee on Scholarly Communication with the PRC, National Academy of Sciences, 2101 Constitution Ave. Nw., Washington, DC.)

# Cambridge Blossoms as Britain's Silicon Valley

*Cambridge, England.* One of the few bright spots in Britain's sickly industrial economy is this ancient university city, which, in recent years, has become the country's nearest equivalent to Silicon Valley, USA.

Just as Stanford University and pleasant California living combined to nurture the American hotbed of electronics industry, Cambridge University and the charms of rural East Anglia are major factors in the boom being experienced here. The surrounding countryside is attractive, if a little flat, medieval architecture abounds, and London is easily reached by road and rail. And, as in California, venture capital is seeking good bets, a generally rare inclination in British finance.

Since 1978, some 200 high-technology companies have sprung up in and around Cambridge. The products they cover include computer hardware and software, lasers, instrumentation, biotechnology, and general engineering. And the growth continues, at an average rate of two new high-technology companies per week, according to a Cambridge bank manager, Walter Herriot, who has assisted with the birth of some of these firms.

In the context of record high national unemployment, the high-tech boom here and in a few other spots doesn't amount to much, since many of the firms employ fewer than 20 persons. But in this city of 100,000 the concentration of new companies has created a secondary wave of economic activity for a variety of suppliers and service firms.

One of Cambridge's first small high-tech firms was Cambridge Consultants, founded in 1960 by Cambridge University alumni as a freelance consulting firm for providing technical expertise for British industry. As is often the case with such consulting operations, many of its employees trickled off to form their own firms or to join their clients. In the Cambridge area, about 25 companies, in areas as diverse as printing, hi-fi, and electronic circuits, can trace their parentage to Cambridge Consultants. In some cases, Cambridge Consultants has taken shares in exchange for startup assistance, or has entered into some other arrangement, such as a royalty agreement.

"The people on our staff have a lot of get-up-and-go," says Paul Auton, Managing Director of Cambridge Consultants. "If they decide to leave, we'd rather retain some link than lose them completely."

The fact that many do strike out on their own is in large part attributed to the force of successful example. "The more people who start businesses, the greater are the number who recognize that they may be able to do something similar themselves," says Richard Cutting, of the computer firm Sinclair Research, which is based in Cambridge.

That point is corroborated by the experience of another Cantabrigian who recently took the entrepreneurial plunge, John Chalmers, founder of Independent Product Engineering—at present a two-man company. "I've been in this city ever since I was at college," he said. "The fact that so many of my friends have started companies has encouraged me to do the same."

Another example of how "spinoffs" develop from existing firms is in the experience of Laser-Scan, a firm founded in 1969 by three physicists from the university. The company manufactures digital mapping hardware and laser devices that "read" written material. One of the employees eventually left to start a firm which sells lasers for light shows and other entertainment purposes. The sales firm later spun off a company that makes the lasers.

Still another example is a string of companies founded by the former chief engineer of Laser-Scan, Barry Muncaster. In rapid succession, he formed an electronics-research consulting firm, an enterprise that manufactures taxi meters, a computer company called Tangerine, and Oric Products, which makes the Oric personal computer. In just over a year, Oric has sold over 100,000 computers, and has set up subsidiaries in Japan and Singapore.

While the British academic community is under pressure to shed its traditional aloofness from contact with industry, Cambridge, along with a very few other universities, has a good record in encouraging such ties. Roger Needham, Professor of Computing at Cambridge, stresses an informal approach for relating to industry. "We try not to get involved with lawyers and contracts," he says.

Several members of his staff are working part time for Acorn, another successful computer firm in Cambridge. About half a dozen firms in computer-aided design have been started by university graduates. The genesis of others can be traced to alumni of the Computer Aided Design Center, which the national government established in Cambridge in 1969 to channel expertise from university laboratories to industry. In the last nine months, at least four computer-aided design firms have started up either from the university or from the Design Center—GEMS, Prosys Technology, Prospective Design, and Cambridge Graphics.

Entrepreneurs in other parts of Britain frequently encounter a chilly reception when they forage for financial assistance. Cambridge, however, has deservedly gained a reputation for a supportive attitude toward the help-

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# Labor Union Drops Aid for Cancer Society

The American Cancer Society's indifference to environmental issues has been challenged by a major labor union, which has cut off its annual $1000 donation to the ACS until the grand behemoth of the health charities straightens up.

The action was taken in December by the American Federation of State, County and Municipal Employes. Word of the deed is being spread by the Washington-based Center for Science in the Public Interest. The Center runs a Health Charities Reform Project predicated on the assumption that some of the majors among health-related tin cup rattlers shun health issues that might offend the philanthropic inclinations of industrial interests.

In a letter to Lane Adams, ACS Executive Vice President, Gerald W. McEntee, International Vice President of the union, said the ACS "has failed to lobby effectively even on proven human carcinogens and has consistently refused to address potential carcinogens based on animal data. The Society has never even testified before Congress or OSHA on asbestos, one of the few substances that ACS acknowledges causes cancer in humans," McEntee charged.

The union head acknowledged ACS's prominent role on the politically safe issue of tobacco, but faulted it for failing to join environmental groups on other issues. ACS, he urged, should "expand the scope of its legislative agenda and apply its lobbying apparatus" to such issues as the Superfund, the Clean Air Act and the Toxic Substances Control Act.

Until that's done, the letter stated, the union "cannot in good conscience continue to support ACS."

## CAMBRIDGE

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seeking beginner. Much of the difference traces back to 1978, when the local branch of Barclays, one of Britain's big banks, started a "computer club" to encourage contact among small technology-based firms.

Bank Manager Walter Herriot, founding Secretary of the club, recalls that the purpose was to encourage these enterprises by overcoming the isolation in which small firms often exist.

The club became the nucleus of a network of contacts for swapping ideas and making deals. It provides Herriot with a readymade roster of specialists for getting advice about proposed ventures. And it puts technical people in touch with lawyers, accountants, and other professional helpmates who are sensitive to the needs of startup businesses.

This concentration of people versed in the commercial aspects of science and technology has now made its mark in the city, and there's confidence that the pace of growth will continue. As one member of the city's high-tech community puts it, "Cambridge is one big compost heap for technological ideas."

The Cambridge experience has inspired attempts at emulation by the national government and local authorities all over Britain. These efforts bring caution warnings from veterans of Cambridge's development as the high-tech capital of Britain.

Noting the confluence of circumstances that surrounded Cambridge's success, Richard Cutting, of Sinclair Research, warns that "You cannot just go into any area of the country, put a sign on a university saying 'science park' and expect to see the kind of mushrooming of companies that has made Cambridge the success it is."—Peter Marsh.

(The author, a former technology correspondent for the British weekly *New Scientist*, recently joined the staff of the London *Financial Times*.)

## *In Quotes: Industrial R&D*

*The following is from an address by Edward A. Knapp, Director of the National Science Foundation, December 1 to the Council of Graduate Schools:*

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Many academic scientists believe that research jobs in industry are second-rate—not for top scientists. Of course, this attitude rubs off on their students. Such an attitude is unfortunate and shortsighted...Where are the jobs today? Without question, jobs are opening up in industry faster than they are opening up in universities. Many businesses are crying out for scientists and engineers. Most colleges and universities are not...

Taking an industrial job is not an indication of being intellectually downwardly mobile.


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# Rheum and Board: AAAS Chiefs Speak Out

Long after its compatriot organizations fired off protests against universities slyly politicking for money on Capitol Hill, the Board of the elephantine American Association for the Advancement of Science has come puffing along with its own special production:

A brief statement, so late, inoffensive, and opaque, that, though the year is young, it seems likely that the 13 savants on the Board have nailed down the Mouse of the Year Award.

The statement, hammered out at the Board's December 10 meeting, might have eluded public notice but for the Board's request that it be published in *Science,* the weekly journal of the AAAS. The magazine's well-read news section was the preferred site of the writing team, but when that request evoked a howl from appalled staff members, a blank four inches were found in the January 6 issue at the end of a review article titled "Chesapeake Bay Anoxia: Origin, Development, and Significance."

Under the title "AAAS Board Statement on Politics and Science," the statement commences with a reference to "concerns that decisions regarding the funding of scientific research are being made in a political atmosphere..." And then, without reference to any specific events or matters, the statement says that things have so far worked well by having the government supply the money and the scientific community the judgment for "defining research needs and opportunities..."

And it concludes by expressing concern "that failures to adhere both in principle and practice to criteria of scientific choice at all times will serve only to diminish public confidence in the peer review system as the basis for allocating national resources, with serious negative consequences for the integrity and advancement of science."

What this is all about, of course, is the spate of fast shuffles that took place in the last Congress in behalf of this or that research venture, particularly the only two that now seem assured of success, funds for new lab buildings at Columbia University and the Catholic University of America (SGR Vol. XIII, Nos. 10 and 19). Perhaps, too, the Board had in mind Presidential Science Adviser George Keyworth's sudden gambit last year to get $250 million for a materials lab at the Berkeley Lawrence Laboratory. But the Board statement didn't say.

But, whatever the cagey authors had in mind, the issue they addressed was expiring if not already dead at the time of composition last December. Numerous other scholarly associations had long before expressed their preference for peer review rather than pork barrel; House Speaker Tip O'Neill and at least one key chairman, Don Fuqua (D-Fla.), of the Science and Technology Committee, had lined up against further ploys, and the House subsequently turned back a flock of special appropriations that had originated in the Senate.

The end of the war provided a safe opportunity for a tardy and timid declaration of principle. The AAAS Board met the challenge.

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